REMARKS

There remains pending in this application claims 1-20, of which claims 1 and 11 are independent. No claims have been added or cancelled.

In view of the above amendments and the following remarks, favorable reconsideration and allowance of the above application is respectfully sought.

Claims 6 and 10-20 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. As the Examiner will appreciate, claims 6, 10, 11, 17, 19, and 20 have been amended to address the objections under § 112. In view of those amendments, withdrawal of those rejections is now respectfully sought.

Independent claim 1 is directed to a heater drive circuit which comprises current detecting means for detecting a value of a current across an AC power supply line, full-wave rectifying means for full-wave rectifying an AC voltage on the AC power supply line, switching means for switching a supply of the full-wave rectified voltage from the full-wave rectifying means to the heater, voltage detecting means for detecting a voltage applied to a heater to be driven and heater control means for on/off-controlling the switching means on the basis of the current value detected by the current detecting means and the voltage value detected by the voltage detecting means.

Independent claim 11 is also directed to a heater drive circuit and incorporates the salient features of claim 1 without utilizing means plus function language.

Each of independent claims 1 and 11 was rejected under 35 U.S.C. § 102 as being anticipated by one of Matsuo et al. (U.S. Patent No. 6,930,293) or Kinouchi et al. (U.S.

Patent No. 6,868,249). In view of the above amendments and the reasons which follow, the rejections are respectfully traversed.

Applicant's invention as featured in each of the independent claims of the above-identified application is characterized in its inclusion of switching means for switching a supply of the full-wave-rectified voltage from the full-wave rectifying means to the heater, voltage detecting means for detecting a voltage applied to a heater to be driven and heater control means for on/off-controlling the switching means on the basis of the current value detected by the current detecting means and the voltage value detected by the voltage detecting means.

Matsuo et al. relates to an induction heating apparatus for a fixing device of an image forming apparatus and includes a rectifying circuit for rectifying a commercial power supply, an excitation coil, a switching element for switching the supply of the output of the rectifying circuit to the excitation coil and a switching signal output unit for outputting a switching signal to the switching element thereby supplying the excitation coil with a high frequency current. Thus, as shown in Figure 1, Matsuo et al. features an induced heating type of a fixing device where the AC power supply 105 is rectified by rectifier 110. In Matsuo et al., the detected current is not a current across an AC power supply line but a peak value of current in the coil 120. Thus, Matsuo et al. has an electrical current across an AC power supply line that is not detected and therefore Matsuo et al. cannot control a device driven by the current. Matsuo et al. therefore fails to teach or suggest the advantageous features of the invention in which a voltage applied to a heater is to be driven by detecting means and a switching means is controlled by heater control means on the basis of the current value detected by the current detecting means and the voltage value detected by the voltage detected means.

Kinouchi et al. features an induced heating type of fixing device and discloses a current across an AC power line. However, in Kinouchi et al. a switching element is used for the coil 41, which is not a heater. In use for a coil, an appropriate voltage has to be applied with dependence on a resonance frequency in each condition. Therefore, in Kinouchi et al., a full wave rectified voltage from the full wave rectifying means is not supplied to a switching means. Accordingly, the voltage detecting section 131 in Kinouchi et al. is not used for a voltage applied to a heater to be driven and does not correspond to the voltage detector of the present invention.

For the foregoing reasons, Applicant respectfully submits that neither Matsuo et al. nor Kinouchi et al. teach or suggest the invention as recited in each of independent claims 1 and 11.

The remaining claims in the above application are dependent claims which depend either directly or indirectly from the independent claims in the above application and are therefore patentable for reasons noted above with respect to those independent claims. In addition, each recite features of the invention still further distinguishing it from the applied art. Favorable and independent consideration thereof is respectfully sought.

Applicant respectfully submits that all outstanding matters in the above application have been addressed and that this application is in condition for allowance. Favorable reconsideration and early passage to issue of the above application are respectfully sought.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

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